



PCT10

ENTERED

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/069,772

DATE: 09/09/2002

TIME: 15:57:07

Input Set : A:\069772s1

Output Set: N:\CRF3\09092002\J069772.raw

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4 <110> APPLICANT: Feussner, Ivo
5     Hornung, Ellen
6     Fritsche, Kathrin
7     Peitzsch, Nicola
9 <120> TITLE OF INVENTION: Fatty acid desaturase gene from plants
11 <130> FILE REFERENCE: 0050/50669
C--> 13 <140> CURRENT APPLICATION NUMBER: US/10/069,772
C--> 15 <141> CURRENT FILING DATE: 2002-05-09
15 <150> PRIOR APPLICATION NUMBER: PCT/EP/00/08222
16 <151> PRIOR FILING DATE: 2000-08-23
18 <160> NUMBER OF SEQ ID NOS: 2
21 <170> SOFTWARE: WordPerfect version 6.1
24 <210> SEQ ID NO: 1
25 <211> LENGTH: 1285
26 <212> TYPE: DNA
27 <213> ORGANISM: Calendula officinalis
29 <220> FEATURE:
30 <221> NAME/KEY: CDS
31 <222> LOCATION: (42)..(1175)
33 <400> SEQUENCE: 1
35 aaaagctcac ttctctgtga gggtaattat atatcaacaa c atg ggt gct ggt ggt 56
36                                     Met Gly Ala Gly Gly
37                                     1           5
39 cgg atg tcg gat cca tct gag gga aaa aac atc ctt gaa cgt gtg cca 104
40 Arg Met Ser Asp Pro Ser Glu Gly Lys Asn Ile Leu Glu Arg Val Pro
41          10          15          20
43 gtc gat cca ccg ttc acg tta agc gat ctg aag aaa gcg att cct acc 152
44 Val Asp Pro Pro Phe Thr Leu Ser Asp Leu Lys Lys Ala Ile Pro Thr
45          25          30          35
47 cat tgc ttt gag cga tct gtc atc cgg tca tca tac tat gtt gtt cat 200
48 His Cys Phe Glu Arg Ser Val Ile Arg Ser Ser Tyr Tyr Val Val His
49          40          45          50
51 gat ctc att gtt gcc tat gtc ttc tac tac ctt gca aac acg tat atc 248
52 Asp Leu Ile Val Ala Tyr Val Phe Tyr Tyr Leu Ala Asn Thr Tyr Ile
53          55          60          65
55 cct ctt att cct aca cct ctg gct tac cta gca tgg ccc gtt tac tgg 296
56 Pro Leu Ile Pro Thr Pro Leu Ala Tyr Leu Ala Trp Pro Val Tyr Trp
57 70          75          80          85
59 ttt tgt caa gct agc atc ctc acc ggc ctc tgg gtc atc ggt cac gaa 344
60 Phe Cys Gln Ala Ser Ile Leu Thr Gly Leu Trp Val Ile Gly His Glu
61          90          95          100
63 tgt ggt cac cat gca ttt agc gac tac cag ttg att gat gac att gtt 392
64 Cys Gly His His Ala Phe Ser Asp Tyr Gln Leu Ile Asp Asp Ile Val

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131 tac cac aag atg taa tcaaaaaggt gtatgtcaat gcaattgtat gcttaattaa 1215
132 Tyr His Lys Met
133 375
135 gttgttaaac ttctattcc gtgtaataaa ttatcattaa gagaaaaaaa aaaaaaaaaa 1275
137 aaaaaaaaaa 1285
140 <210> SEQ ID NO: 2
141 <211> LENGTH: 377
142 <212> TYPE: PRT
143 <213> ORGANISM: Calendula officinalis
146 <400> SEQUENCE: 2
148 Met Gly Ala Gly Gly Arg Met Ser Asp Pro Ser Glu Gly Lys Asn Ile
149 1 5 10 15
151 Leu Glu Arg Val Pro Val Asp Pro Pro Phe Thr Leu Ser Asp Leu Lys
152 20 25 30
154 Lys Ala Ile Pro Thr His Cys Phe Glu Arg Ser Val Ile Arg Ser Ser
155 35 40 45
157 Tyr Tyr Val Val His Asp Leu Ile Val Ala Tyr Val Phe Tyr Tyr Leu
158 50 55 60
160 Ala Asn Thr Tyr Ile Pro Leu Ile Pro Thr Pro Leu Ala Tyr Leu Ala
161 65 70 75 80
163 Trp Pro Val Tyr Trp Phe Cys Gln Ala Ser Ile Leu Thr Gly Leu Trp
164 85 90 95
166 Val Ile Gly His Glu Cys Gly His His Ala Phe Ser Asp Tyr Gln Leu
167 100 105 110
169 Ile Asp Asp Ile Val Gly Phe Val Leu His Ser Ala Leu Leu Thr Pro
170 115 120 125
172 Tyr Phe Ser Trp Lys Tyr Ser His Arg Asn His His Ala Asn Thr Asn
173 130 135 140
175 Ser Leu Asp Asn Asp Glu Val Tyr Ile Pro Lys Arg Lys Ser Lys Val
176 145 150 155 160
178 Lys Ile Tyr Ser Lys Leu Leu Asn Asn Pro Pro Gly Arg Val Phe Thr
179 165 170 175
181 Leu Val Phe Arg Leu Thr Leu Gly Phe Pro Leu Tyr Leu Leu Thr Asn
182 180 185 190
184 Ile Ser Gly Lys Lys Tyr Gly Arg Phe Ala Asn His Phe Asp Pro Met
185 195 200 205
187 Ser Pro Ile Phe Asn Asp Arg Glu Arg Val Gln Val Leu Leu Ser Asp
188 210 215 220
190 Phe Gly Leu Leu Ala Val Phe Tyr Ala Ile Lys Leu Leu Val Ala Ala
191 225 230 235 240
193 Lys Gly Ala Ala Trp Val Ile Asn Met Tyr Ala Ile Pro Val Leu Gly
194 245 250 255
196 Val Ser Val Phe Phe Val Leu Ile Thr Tyr Leu His His Thr His Leu
197 260 265 270
199 Ser Leu Pro His Tyr Asp Ser Thr Glu Trp Asn Trp Ile Lys Gly Ala
200 275 280 285
202 Leu Ser Thr Ile Asp Arg Asp Phe Gly Phe Leu Asn Arg Val Phe His
203 290 295 300
205 Asp Val Thr His Thr His Val Leu His His Leu Ile Ser Tyr Ile Pro

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| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 206 | 305 | | | | 310 | | | | 315 | | | | 320 | | | |
| 208 | His | Tyr | His | Ala | Lys | Glu | Ala | Arg | Asp | Ala | Ile | Lys | Pro | Val | Leu | Gly |
| 209 | | | | | 325 | | | | | 330 | | | | | 335 | |
| 211 | Glu | Tyr | Tyr | Lys | Ile | Asp | Arg | Thr | Pro | Ile | Phe | Lys | Ala | Met | Tyr | Arg |
| 212 | | | | 340 | | | | | 345 | | | | | 350 | | |
| 214 | Glu | Ala | Lys | Glu | Cys | Ile | Tyr | Ile | Glu | Pro | Asp | Glu | Asp | Ser | Glu | His |
| 215 | | | 355 | | | | | 360 | | | | | 365 | | | |
| 217 | Lys | Gly | Val | Phe | Trp | Tyr | His | Lys | Met | | | | | | | |
| 218 | | 370 | | | | | 375 | | | | | | | | | |

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/069,772

DATE: 09/09/2002

TIME: 15:57:08

Input Set : A:\069772s1

Output Set: N:\CRF3\09092002\J069772.raw

L:13 M:270 C: Current Application Number differs, Replaced Current Application Number
L:15 M:271 C: Current Filing Date differs, Replaced Current Filing Date